

**LISTING OF THE CLAIMS**

The following listing, if entered, replaces all prior versions of the claims in the present application.

1. (Previously Presented) A method for communicating comprising:  
controlling a user interface presented by a web browser comprising:  
causing a web server to push an asynchronous message to the web browser  
in response to an incoming event, wherein  
the incoming event is an event other than a request for information  
from the web server,  
the web browser presents a user interface change in response to the  
asynchronous message, and  
the incoming event is received by a communication server;  
causing the web browser to provide a wait request to the web server  
wherein, the wait request is associated with the web browser, and  
the wait request is other than a request for information from the  
web server;  
identifying a source of the asynchronous message; and  
associating the wait request with the source, wherein the associating  
identifies the web browser as a recipient of the asynchronous  
message.
2. (Original) The method of claim 1 further comprising:  
generating the asynchronous message.
3. (Original) The method of claim 1 further comprising:  
preparing to receive the asynchronous message.
- 4-5. (Cancelled)

6. (Previously Presented) The method of claim 1 further comprising:  
generating the asynchronous message, the asynchronous message identifying the  
wait request, wherein the identifying identifies the web browser as a  
recipient of the asynchronous message; and  
providing the asynchronous message to the web server.
7. (Original) The method of claim 6 wherein causing the web browser to provide the  
wait request comprises:  
downloading requesting instructions to the web browser, wherein  
the downloading causes the web browser to execute the requesting  
instructions.
8. (Original) The method of claim 6 further comprising:  
storing a reference to a callback function with information from the wait request;  
and  
using the reference to call the callback function when the asynchronous message  
is provided to the web server, wherein the callback function pushes the  
asynchronous message.
9. (Original) The method of claim 8 further comprising:  
providing the callback function with context information, the context  
information identifying the web browser.
10. (Original) The method of claim 6 further comprising:  
assigning the wait request to a connection between the web server and a business  
process server; and  
listening to the connection for the asynchronous message.
11. (Original) The method of claim 6 further comprising:  
assigning the wait request to a session between the web server and a business  
process server, the session being associated with a connection; and  
listening to the connection for the asynchronous message for the session.

12. (Original) The method of claim 1 wherein causing the web server to push the asynchronous message comprises:
- calling a callback function associated with the web browser when the asynchronous message is received, wherein the callback function pushes the asynchronous message.
13. (Original) The method of claim 12 further comprising:
- storing a reference to the callback function; and
  - using the reference for calling the callback function.
14. (Original) The method of claim 13 further comprising:
- storing a second reference to context information, the context information identifying the web browser; and
  - using the second reference for providing the context information to the callback function.
15. **(Currently Amended)** The method of claim 1 wherein the change in the user interface comprises at least one of a group consisting of the following:
- causing a first user interface object to move to visually capture a user's attention;
  - causing a second user interface object to issue a sound to capture the user's attention;
  - presenting a screen pop of data; and
  - bringing a web browser window to **the** front of **a** screen.
16. (Previously Presented) A method for communicating comprising:
- causing a web server to push an asynchronous message to a web browser in response to an incoming event, wherein
    - the incoming event is an event other than a request for information from the web server,
    - the web browser performs an action in response to the asynchronous message, and
    - the incoming event is received by a communication server;

causing the web browser to provide a wait request to the web server wherein, the wait request is associated with the web browser, and the wait request is other than a request for information from the web server;  
 identifying a source of the asynchronous message; and  
 associating the wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message.

17. (Original) The method of claim 16 wherein the asynchronous message includes an action instruction to cause the web browser to perform the action.
18. (Original) The method of claim 16 wherein the performing the action comprises performing at least one of a group consisting of the following:  
 causing a first user interface object to move to visually capture a user's attention;  
 causing a second user interface object to issue a sound to capture the user's attention;  
 presenting a screen pop of data; and  
 bringing a web browser window to front of screen.
19. (Previously Presented) A method for communicating comprising:  
 establishing a first connection between a web browser and a web server;  
 establishing a second connection between the web server and a business process server;  
 controlling a user interface presented by the web browser comprising:  
 registering the web browser with the business process server;  
 providing the web server with an asynchronous message to push to the web browser, the providing being performed by the business process server and the providing being performed in response to an incoming event, wherein the incoming event is an event other than a request for information from the web server;  
 and  
 causing the web server to push the asynchronous message to the web browser;  
 wherein the web browser performs a user interface change in response to the

asynchronous message;  
the incoming event is received by a communication server;  
causing the web browser to provide a wait request to the web server wherein, the  
wait request is associated with the web browser, and the wait request is  
other than a request for information from the web server;  
identifying a source of the asynchronous message; and  
associating the wait request with the source, wherein the associating identifies the  
web browser as a recipient of the asynchronous message.

20. (Previously Presented) A method for communicating comprising:  
controlling a user interface presented by a web browser comprising:  
registering the web browser as available to receive an asynchronous  
message, wherein  
the web browser is not blocked waiting for the asynchronous  
message;  
causing a web server to push the asynchronous message to the web  
browser in response to an incoming event, wherein  
the incoming event is an event other than a request for information  
from the web server,  
the web browser presents a user interface change in response to the  
asynchronous message, and  
the incoming event is received by a communication server;  
causing the web browser to provide a wait request to the web server  
wherein, the wait request is associated with the web browser, and  
the wait request is other than a request for information from the  
web server;  
identifying a source of the asynchronous message; and  
associating the wait request with the source, wherein the associating  
identifies the web browser as a recipient of the asynchronous  
message.

21. **(Currently Amended)** A method for communicating comprising:  
controlling a user interface presented by a web browser comprising:  
causing the web browser to provide a wait request to a web server, the  
wait request being associated with the web browser, **and the wait  
request is other than a request for information from the web  
server;**  
identifying a source of an asynchronous message;  
associating the wait request with the source, wherein the associating  
identifies the web browser as a recipient of the asynchronous  
message;  
pushing the asynchronous message to the web browser in response to an  
incoming event, wherein  
the incoming event is an event other than a request for information  
from the web server,  
the browser presents a user interface change in response to the  
asynchronous message, and  
the incoming event is received by a communication server;  
~~causing the web browser to provide a wait request to the web server  
wherein, the wait request is associated with the web browser,  
and the wait request is other than a request for information  
from the web server;~~  
identifying a source of the asynchronous message; and  
associating the wait request with the source, wherein the associating  
identifies the web browser as a recipient of the asynchronous  
message.
22. **(Previously Presented)** A method for communicating comprising:  
controlling a user interface presented by a web browser comprising:  
causing the web browser to provide a wait request to a web server,  
wherein  
the wait request is associated with the web browser and a target  
from which an asynchronous message originates, and  
the wait request is other than a request for information from the

- web server;  
generating the asynchronous message, the asynchronous message  
identifying the web browser as a recipient of the asynchronous  
message, the generating being performed by the target;  
providing the asynchronous message to the web server; and  
causing the web server to push the asynchronous message to the web  
browser in response to an incoming event, wherein  
the incoming event is an event other than a request for information  
from the web server,  
the web browser presents a user interface change in response to the  
asynchronous message; and  
the incoming event is received by a communication server.
23. (Previously Presented) A computer program product comprising:  
controlling instructions to control a user interface presented by a web browser  
comprising:  
pushing instructions to cause a web server to push an asynchronous  
message to the web browser in response to an incoming event,  
wherein  
the incoming event is an event other than a request for information  
from the web server,  
the web browser presents a user interface change in response to the  
asynchronous message, and  
the incoming event is received by a communication server;  
providing instructions to cause the web browser to provide a wait request to the  
web server, the wait request being associated with the web browser;  
identifying instructions to identify a source of the asynchronous message; and  
associating instructions to associate the wait request with the source, wherein the  
associating identifies the web browser as a recipient of the asynchronous  
message; and  
a computer-readable medium for storing the controlling instructions, the pushing  
instructions, the providing instructions, the identifying instructions, and  
the associating instructions.

24. (Cancelled)
25. (Original) The computer program product of claim 23 further comprising:  
request providing instructions to cause the web browser to provide a wait request  
to the web server, the wait request being associated with the web browser;  
generating instructions to generate the asynchronous message, the asynchronous  
message identifying the wait request, wherein the identifying identifies the  
web browser as a recipient of the asynchronous message; and  
message providing instructions to provide the asynchronous message to the web  
server;  
wherein the computer-readable medium further stores the request providing  
instructions, the generating instructions, and the message providing  
instructions.
26. (Original) The computer program product of claim 25 further comprising:  
storing instructions to store a reference to a callback function with information  
from the wait request; and  
using instructions to use the reference to call the callback function when the  
asynchronous message is provided to the web server, wherein the callback  
function pushes the asynchronous message;  
wherein the computer-readable medium further stores the storing instructions and  
the using instructions.
27. (Original) The computer program product of claim 26 further comprising:  
context providing instructions to provide the callback function with context  
information, the context information identifying the web browser;  
wherein the computer-readable medium further stores the context providing  
instructions.



28. (Original) The computer program product of claim 25 further comprising:  
assigning instructions to assign the wait request to a connection between the web  
server and a business process server; and  
listening instructions to listen to the connection for the asynchronous message;  
wherein the computer-readable medium further stores the assigning instructions  
and the listening instructions.
29. (Original) The computer program product of claim 23 wherein  
the pushing instructions comprise:  
calling instructions to call a callback function associated with the web  
browser when the asynchronous message is received, wherein the  
callback function pushes the asynchronous message;  
and  
the computer-readable medium further stores the calling instructions.
30. (Original) The computer program product of claim 29 further comprising:  
reference storing instructions to store a reference to the callback function; and  
reference using instructions to use the reference for calling the callback function;  
wherein the computer-readable medium further stores the reference storing  
instructions and the reference using instructions.
31. (Original) The computer program product of claim 30 further comprising:  
context storing instructions to store a second reference to context information, the  
context information identifying the web browser; and  
context using instructions to use the second reference for providing the context  
information to the callback function;  
wherein the computer-readable medium further stores the context storing  
instructions and the context using instructions.

32. **(Currently Amended)** The computer program product of claim 23 further comprising:

user interface changing instructions configured to perform at least one of a group consisting of the following:  
cause a first user interface object to move to visually capture a user's attention;  
cause a second user interface object to issue a sound to capture the user's attention;  
present a screen pop of data; and  
bring a web browser window to the front of a screen;  
wherein the computer-readable medium further stores the user interface changing instructions.

33. **(Currently Amended)** A computer program product comprising:

controlling instructions to control a user interface presented by a web browser comprising:  
registering instructions to register the web browser as available to receive an asynchronous message, wherein  
the web browser is not blocked waiting for the asynchronous message;  
and  
pushing instructions to cause a web server to push the asynchronous message to the web browser in response to an incoming event, wherein  
the incoming event is an event other than a request for information from the web server,  
the web browser presents a user interface change in response to the asynchronous message, and  
the incoming event is received by a communication server;  
providing instructions to cause the web browser to provide a wait request to the web server wherein, the wait request is associated with the web browser, and the wait request is other than a request for information from the web server;

identifying instructions to identify a source of the asynchronous message; and  
 associating instructions to associate the wait request with the source, wherein the  
     associating identifies the web browser as a recipient of the asynchronous  
     message; and

a computer-readable medium for storing the controlling instructions, the  
     registering instructions, the pushing instructions, the providing  
     instructions, the identifying instructions, and the associating instructions.

~~a computer-readable medium for storing the controlling instructions, the  
     pushing instructions.~~

34. (Previously Presented) A computer system comprising:  
 a processor;  
 a memory, the memory storing instructions for executing on the processor, the  
     instructions comprising:  
     controlling instructions to control a user interface presented by a web  
     browser comprising:  
     pushing instructions to cause a web server to push an asynchronous  
         message to the web browser in response to an incoming  
         event, wherein  
         the web browser presents a user interface change in  
         response to the asynchronous message, and  
         the incoming event is received by a communication server;  
     providing instructions to cause the web browser to provide a wait  
         request to the web server, the wait request being associated  
         with the web browser;  
     identifying instructions to identify a source of the asynchronous  
         message; and  
     associating instructions to associate the wait request with the  
         source, wherein the associating identifies the web browser  
         as a recipient of the asynchronous message.

35. (Cancelled)

36. (Original) The computer system of claim 34 wherein the instructions further comprise:

request providing instructions to cause the web browser to provide a wait request to the web server, the wait request being associated with the web browser; generating instructions to generate the asynchronous message, the asynchronous message identifying the wait request, wherein the identifying identifies the web browser as a recipient of the asynchronous message; and message providing instructions to provide the asynchronous message to the web server.

37. (Original) The computer system of claim 36 wherein the instructions further comprise:

storing instructions to store a reference to a callback function with information from the wait request; and using instructions to use the reference to call the callback function when the asynchronous message is provided to the web server, wherein the callback function pushes the asynchronous message.

38. (Original) The computer system of claim 37 wherein the instructions further comprise:

context providing instructions to provide the callback function with context information, the context information identifying the web browser.

39. (Original) The computer system of claim 36 wherein the instructions further comprise:

assigning instructions to assign the wait request to a connection between the web server and a business process server; and listening instructions to listen to the connection for the asynchronous message.

40. (Original) The computer system of claim 34 wherein the pushing instructions comprise:

calling instructions to call a callback function associated with the web browser when the asynchronous message is received, wherein the callback function pushes the asynchronous message.

41. (Original) The computer system of claim 40 wherein the instructions further comprise:
- reference storing instructions to store a reference to the callback function; and
  - reference using instructions to use the reference for calling the callback function.
42. (Original) The computer system of claim 41 wherein the instructions further comprise:
- context storing instructions to store a second reference to context information, the context information identifying the web browser; and
  - context using instructions to use the second reference for providing the context information to the callback function.
43. **(Currently Amended)** The computer system of claim 34 wherein the instructions further comprise:
- user interface changing instructions configured to perform at least one of a group consisting of the following:
    - cause a first user interface object to move to visually capture a user's attention;
    - cause a second user interface object to issue a sound to capture the user's attention;
    - present a screen pop of data; and
    - bring a web browser window to the front of a screen.
44. (Previously Presented) A computer system comprising:
- a processor;
  - a memory, the memory storing instructions for executing on the processor, the instructions comprising:
    - controlling instructions to control a user interface presented by a web browser comprising:
      - registering instructions to register the web browser as available to receive an asynchronous message, wherein the web browser is not blocked waiting for the asynchronous message;
      - pushing instructions to cause a web server to push the asynchronous

message to the web browser in response to an incoming event,  
 wherein  
 the incoming event is an event other than a request for information  
 from the web server,  
 the web browser presents a user interface change in response to the  
 asynchronous message, and  
 the incoming event is received by a communication server.  
 providing instructions to cause the web browser to provide a wait request  
 to the web server wherein, the wait request is associated with the  
 web browser, and the wait request is other than a request for  
 information from the web server;  
 identifying instructions to identify a source of the asynchronous message;  
 and  
 associating instructions to associate the wait request with the source,  
 wherein the associating identifies the web browser as a recipient of  
 the asynchronous message.

45. (Currently Amended) A system comprising:

**a client computer comprising:**

**a web browser, wherein the web browser presents a user interface;**

**a server computer coupled to the client computer, wherein the server  
 computer comprises**

controlling means for controlling ~~[[a]]~~ **the** user interface presented  
 by ~~[[a]]~~ **the** web browser ~~comprising:~~  
 pushing means for causing a web server to push an asynchronous  
 message to the web browser in response to an incoming  
 event, wherein  
 the incoming event is an event other than a request for  
 information from the web server,  
 the web browser presents a user interface change in  
 response to the asynchronous message, and  
 the incoming event is received by a communication  
 server~~[[,]]~~ ,

~~providing means for causing the web browser to provide a wait request to the web server wherein, the wait request is associated with the web browser, and the wait request is other than a request for information from the web server;~~  
 identifying means for identifying a source of the asynchronous message[[]], and  
 associating means for associating ~~[[the]]~~ a wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message, and  
the client computer comprises  
providing means for causing the web browser to provide the  
wait request to the web server,  
the wait request is associated with the web browser, and  
the wait request is other than a request for information from  
the web server.

46. (Cancelled)

47. (Currently Amended) The system of claim 45, the server computer further comprising:

~~request providing means for causing the web browser to provide a wait request to the web server, the wait request being associated with the web browser;~~

generating means for generating the asynchronous message, the asynchronous message identifying the wait request, wherein the identifying identifies the web browser as a recipient of the asynchronous message; and  
 message providing means for providing the asynchronous message to the web server.

48. (Currently Amended) The system of claim 47, the server computer further comprising:

storing means for storing a reference to a callback function with information from the wait request; and  
 using means for using the reference to call the callback function when the

asynchronous message is provided to the web server, wherein the callback function pushes the asynchronous message.

49. **(Currently Amended)** The system of claim 48, the client computer further comprising:

context providing means for providing the callback function with context information, the context information identifying the web browser.

50. **(Currently Amended)** The system of claim 47, the server computer further comprising:

assigning means for assigning the wait request to a connection between the web server and a business process server; and

listening means for listening to the connection for the asynchronous message.

51. **(Original)** The system of claim 45 wherein the pushing means comprise:  
calling means for calling a callback function associated with the web browser when the asynchronous message is received, wherein the callback function pushes the asynchronous message.

52. **(Currently Amended)** The system of claim 51, the server computer further comprising:

reference storing means for storing a reference to the callback function; and

reference using means for using the reference for calling the callback function.

53. **(Currently Amended)** The system of claim 52, the server computer further comprising:

context storing means for storing a second reference to context information, the context information identifying the web browser; and

context using means for using the second reference for providing the context information to the callback function.

54. **(Currently Amended)** The system of claim 45, the client computer further comprising:

user interface changing means configured to perform at least one of a group consisting of the following:



cause a first user interface object to move to visually capture a user's attention;  
 cause a second user interface object to issue a sound to capture the user's attention;  
 present a screen pop of data; and  
 bring a web browser window to front of screen.

55. (Currently Amended) A system comprising:

**a client computer comprising:**

**a web browser, wherein the web browser presents a user interface;**

**a server computer coupled to the client computer, wherein the server computer comprises**

controlling means for controlling a user interface presented by a web browser, ~~comprising:~~

registering means for registering the web browser as available to receive an asynchronous message, wherein the web browser is not blocked waiting for the asynchronous message[[:]] , and

pushing means for causing a web server to push the asynchronous message to the web browser in response to an incoming event, wherein the incoming event is an event other than a request for information from the web server, the web browser presents a user interface change in response to the asynchronous message, and the incoming event is received by a communication server,

identifying means for identifying a source of the asynchronous message[[:]] ~~and,~~

associating means for associating ~~[[the]]~~ **a** wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message, **and**

**the client computer comprises**

**providing means for causing the web browser to provide the**

wait request to the web server,  
the wait request is associated with the web browser, and  
the wait request is other than a request for information from  
the web server.

56. (Cancelled)

57. (Cancelled)

58. **(Currently Amended)** A system comprising:

a controlling module to control a user interface presented by a web browser  
 comprising:

a pushing module to cause a web server to push an asynchronous message  
 to the web browser in response to an incoming event, wherein  
 the incoming event is an event other than a request for information  
 from the web server,

the web browser presents a user interface change in response to the  
 asynchronous message, and

the incoming event is received by a communication server;

a request providing module to cause the web browser to provide a wait request to  
 the web server wherein, the wait request is associated with the web  
 browser, and the wait request is other than a request for information from  
 the web server;

an identifying module to identify a source of the asynchronous message; **[[and]]**

an associating module to associate the wait request with the source, wherein the  
 associating identifies the web browser as a recipient of the asynchronous  
 message; **and**

**a computer readable storage medium configured to store the controlling**  
**module, pushing module, request providing module, identifying**  
**module, and associating module.**

59. (Cancelled)

60. **(Currently Amended)** The system of claim 58 further comprising:

~~a request providing module to cause the web browser to provide a wait~~

~~request to the web server, the wait request being associated with the web browser;~~

a generating module to generate the asynchronous message, the asynchronous message identifying the wait request, wherein the identifying identifies the web browser as a recipient of the asynchronous message; and  
a message providing module to provide the asynchronous message to the web server, wherein

the computer readable storage medium is configured to store the generating module and message providing module.

61. (Currently Amended) The system of claim 60 further comprising:

a storing module to store a reference to a callback function with information from the wait request; and

a using module to use the reference to call the callback function when the asynchronous message is provided to the web server, wherein the callback function pushes the asynchronous message, wherein

the computer readable storage medium is configured to store the storing module and using module.

62. (Currently Amended) The system of claim 61 further comprising:

a context providing module to provide the callback function with context information, the context information identifying the web browser, wherein

the computer readable storage medium is configured to store the context providing module.

63. (Currently Amended) The system of claim 60 further comprising:

an assigning module to assign the wait request to a connection between the web server and a business process server; and

a listening module to listen to the connection for the asynchronous message, wherein

the computer readable storage medium is configured to store the assigning module and listening module.

64. **(Currently Amended)** The system of claim 58 wherein the pushing means comprise:
- a calling module to call a callback function associated with the web browser when the asynchronous message is received, wherein the callback function pushes the asynchronous message, wherein  
the computer readable storage medium is configured to store the calling module.
65. **(Currently Amended)** The system of claim 64 further comprising:
- a reference storing module to store a reference to the callback function; and  
a reference using module to use the reference for calling the callback function,  
wherein  
the computer readable storage medium stores the reference storing module and the reference using module.
66. **(Currently Amended)** The system of claim 65 further comprising:
- a context storing module to store a second reference to context information, the context information identifying the web browser; and  
a context using module to use the second reference for providing the context information to the callback function, wherein  
the computer readable storage medium stores the context storing module and the context using module.
67. **(Currently Amended)** The system of claim 58 further comprising:
- a user interface changing module configured to perform at least one of a group consisting of the following:
- cause a first user interface object to move to visually capture a user's attention;
- cause a second user interface object to issue a sound to capture the user's attention;
- present a screen pop of data; and
- bring a web browser window to front of screen, wherein  
the computer readable storage medium is configured to store the user interface changing module.

68. (Previously Presented) The method of claim 1 further comprising:  
opening a persistent hypertext transfer protocol (HTTP) connection between the  
web browser and the web server when a user logs in; and  
closing the persistent HTTP connection between the web browser and the web  
server in response to the web server pushing the asynchronous message to  
the web browser.